

ERDEY, L.

Report of the work of the Chemical Section; also, remarks by G. Schay and others. p. 3. KOZLEMENYEI. Budapest. Vol. 7, no. 1, 1955.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, No. 2, Feb. 1956

ERDEY, L.

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16. Thermal analysis of precipitates. I. Metal oxalate precipitates. II. Aluminum hydroxide precipitates. (In German) L. ERDEY, P. PAULI. *Acta Chimica Academiae Scientiarum Hungaricae*, Vol. 7, 1955, No. 1-2, pp. 27-36, 38 figs.

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Chem

The author's application of differential thermal analysis and thermogravimetry for the investigation of the thermal properties of barium, strontium, calcium, magnesium, zinc and manganese oxalate precipitates resulted in many advantages. By the first method it is possible to record extremely small changes in weight whereas thermogravimetry yields reliable data for quantitative deductions. The thermogravimetric measurements were carried out on a thermobalance made in the Institute. It was found that the carbon dioxide formed during the thermal treatment of the metal oxalate precipitates plays an important role since it may decrease the reaction rate and increase the decomposition temperature. By employing a similar method it was established that the structure and composition of aluminum hydroxide precipitates was barely influenced by the quality of the precipitating agent and by the concentration of foreign ions in the solution. The slower the rate of precipitation and the weaker and hotter the solution (conditions more favourable for crystal formation) the closer the structure of the precipitate approaches that of the gibbsite molecule. Under contrary conditions an amorphous gel-type precipitate was obtained.

BM

ERDEY, LASZLO.

*[Handwritten signature]*  
Differential thermogravimetry (anal. for the  
Paulik, and Jeno Paulik Budapest, Hungary  
Magyar Tudományos Akad. Kert. 1970  
Közlönyei 7, 85 86 (1955) 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

*[Handwritten initials]*  
ca

Erdey, L.

21. Data on the kinetics of the decomposition of hydrogen peroxide in alkaline medium. (In German) L. Erdey, I. Inczedy. *Acta Chimica Academiae Scientiarum Hungaricae*, Vol. 7, 1955, No. 1-2, pp. 93-115, 7 figs., 3 tabs.

Based on a theoretically derived reaction equation the decomposition process proved to be of the second order. Experimentally however, the second order was found only at the pH value of maximum decomposition. The activation energy of the decomposition was calculated from the rate constants established at different temperatures for the pH values of maximum decomposition. The activation energy proved to be independent of the dimensions of the enclosing glass surface. A linear relationship was found to exist between the decomposition rate and the surface area below pH 12. Above this value the decomposition rate varies as a function of the square root of the surface. The alkaline decomposition of hydrogen peroxide was initiated by a starting period possibly due to the formation of a hypothetical intermediate. It is the deformation of this intermediate product on the glass surface which actually yields the well known decomposition products.

Chem

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ERDEY, L.

✓ Calcium determination in alumina. L. JANKOVITS AND L. ERDEY. *Acta Chim. Acad. Sci. Hung.* 7 [1-2] 155-83 (1955) (in German).—The possibilities of determining the Ca content in alumina, particularly in bauxite, were examined for the purpose of improving present methods and developing new ones. Reliable determinations were made by precipitating the Ca with oxalate, potassium nickel nitrite, picronic acid, naphthalhydroxamic acid, and chloranilic acid or by titration with Komplexon. The most accurate methods are the direct colorimetric measurement and the colorimetric determination in the form of naphthalhydroxamate, 0.001%. 17 references. M.H.A.

**1326. Determination of vanadium by means of reducing volumetric solutions. I. Direct determination of vanadium with ascorbic acid.**

L. Erdelyi, E. Bodor and I. Buzis (Inst. Gen. Chem., Hungarian Univ., Budapest). *Acta Chim. Acad. Sci. Hung.*

1958, 7 (3-4), 277-283. In this rapid method described the end-point of this titration is shown by Variamine blue. A solution containing 0.05 to 0.2 g of  $V_2O_5$  is neutralised against phenolphthalein with  $N NaOH$ , then acidified with  $N H_2SO_4$  (10 ml), and made up to 100 ml with water. This solution is titrated with 0.1 N ascorbic acid until the colour changes from brown through green to blue-green. A solution of Variamine blue (1 per cent, 0.2 ml) is added, when the colour changes to dark violet, and titration is continued until the colour changes to pale blue. The end-point is confirmed by adding one drop of indicator to the solution. The titration must be completed in 5 min. The accuracy of the method is within  $\pm 0.5$  per cent.

II. Indirect determination of vanadium with ascorbic acid. L. Erdelyi, I. Buzis and E. Bodor. *Ibid.*, 1958, 7 (3-4), 287-292. A method is described for the indirect determination of  $V^{5+}$  by means of ascorbic acid and ferrous sulphate solution free from  $Fe^{3+}$ . The titration is carried out quickly in cold solution slightly acidified with  $HCl$ . The end-point is indicated by Variamine blue. A solution containing 0.1 to 0.2 g of  $V_2O_5$  is neutralised with  $NaOH$  to phenolphthalein,  $N HCl$  (15 ml) and 0.1 N ferrous sulphate solution (5 ml) from which  $Fe^{3+}$  have been removed by a cadmium reductor) are added and the solution is diluted to 100 ml with water. The solution is titrated with 0.1 N ascorbic acid as described above. The accuracy of the method is within  $\pm 0.1$  per cent.

III. Determination of vanadium with a ferrous salt. L. Erdelyi, K. Vigh and E. Bodor. *Ibid.*, 1958, 7 (3-4), 293-300. The method has been applied to the determination of vanadium in ferrovanadium, in steel, in vanadium pentoxide, and in vanadium mud. Ferric ions are bound by either  $H_3PO_4$ ,  $NaF$  or  $Na_2P_2O_7$ . For the determination of the vanadium contents of chromium-containing steels, the samples are oxidised with  $KBrO_3$  when only the vanadium is oxidised. Procedure for vanadium pentoxide—A sample (0.5 g) is dissolved in dilute  $H_2SO_4$  (1:3; 10 ml) and the solution is made up to 100 ml with water. A 50-ml portion of this solution is added to 3 per cent  $H_2O_2$  (5 ml), and the excess of peroxide is destroyed by boiling for a few minutes. The oxidised solution is treated with  $NH_4Cl$  (5 g) and 0.1 N  $KBrO_3$  solution (25 ml) and boiled for 15 min. The solution is allowed to cool and  $Na_2P_2O_7$  (4 g) is added. The resulting solution is titrated with 0.1 N  $FeSO_4$  solution to Variamine blue.

C. A. SLATER

ERDEY, L.; VIGH, K.; BODOR, E.

ERDEY, L.; VIGH, K.; BODOR, E. Determination of vanadium using reducing measuring solutions. III. Determination of vanadium with an iron (II) salt as a measuring solution. In German. p. 293.

Vol. 7, no. 3/4, 1955  
ACTA CHIMICA  
SCIENCE  
HUNGARY

So: East European Accessions, Vol. 5, No. 9, Sept. 1956

ERDEY, L.; GEGUS, E.; KOCSIS, E.

ERDEY, L.; GEGUS, E.; KOCSIS, E. Spectral analysis of solutions using the  
cup electrode method. In German. p. 343.

Vol. 7, no. 3/4, 1955  
ACTA CHIMICA  
SCIENCE  
HUNGARY

So: East European Accessions, Vol. 5, No. 9, Sept. 1956



Erdey, 2.

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1. Colorimetric determination of iodine with the use of  
 Variamine Blue. L. Erdey and E. Szabadvary (Tech.  
 Univ., Budapest). ~~Abstract~~ *Acad. Sci. Hung.* 8, 191-202  
 (1955) (in German) (English summary). - Attempts to de-  
 velop a colorimetric I detn. (e.g., the reaction of I with  
 starch) were so far not successful. However the blue color of  
 I with Variamine Blue (4-amino-2'-methoxydiphenylamine)  
 could be developed into a colorimetric detn. of great sensi-  
 tivity. Procedure: Transfer the weakly acid solu. contg.  
 25-500  $\gamma$  of I dissolved in not more than 25 ml. H<sub>2</sub>O to a 50-  
 ml. volumetric flask. Add an acetic acid-acetate buffer  
 solu. of pH 3 and finally 2 ml. of a 1% solu. of Variamine  
 Blue. After waiting 2 min., measure the color with a Pul-  
 frich photometer and filter S 67 vs. water. A pH of 3 favors  
 not only greater color stability but prevents interference by  
 iodide. The absorption curve follows Beer's law quite  
 closely over a pH range of 0-5, except for I concns. under  
 12  $\gamma$ /ml. Concns. of 0.5  $\gamma$ /ml. I could be accurately detd.  
 by this colorimetric method. Oxidizing as well as reducing  
 substances must be absent, also Pb, Hg, Bi, CN, oxalate,  
 and borate. 14 references. Ernst M. Goldstein

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ERDEY, L

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CT

Determination of mercury by ascorbimetry. L. Erdey and I. Hazas (Tech. Univ., Budapest). Acta Chim. Hung. Sci. Hung. 8, 203-70 (1965) [in German] (English summary).—In a previous publication (cf. C.A. 49, 4440c) the ascorbimetric detn. of Ag was described. As the literature mentions no detn. of Hg<sup>++</sup> ions based on a reduction reaction and an indicator, attempts were made to use the ascorbimetric Ag detn. method also for Hg<sup>++</sup>. If HgCl<sub>2</sub> solns. were employed the reduction with ascorbic acid went only to HgCl. As reduction to Hg metal was desirable Hg(NO<sub>3</sub>)<sub>2</sub> solns. were used because in this case reduction to Hg took place. Procedure: To the Cl-free soln. contg. about 50-600 mg. Hg<sup>++</sup> ions add NaOH until HgO begins to ppt., then acidify with 30 ml. 0.1N HNO<sub>3</sub>. Dil. the clear soln. to 100 ml. and heat to about 60°. As indicator for the following titration use a 1% aq. soln. of Variator blue. Add 0.1 ml. of the indicator and titrate with 0.1N ascorbic acid until the soln. is colorless. To avoid a strong acidity (pH should be between 2 and 3) it is advised

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# *Determination of mercury...*

able to add towards the end of the titration 1 ml. of a 20% NaOAc soln. as buffer. Results of ascorbinometric Hg titrations are tabulated and compared with the results of standard titrimetric and gravimetric data. The agreement is excellent. Typical interfering ions are Ag, Ni, Cu, and org. compounds like tartaric, citric, and oxalic acid. If Hg<sup>2+</sup> is present, oxidation to Hg<sup>2+</sup> with 0.1N KMnO<sub>4</sub> soln. should precede the titration. A soln. of HgCl<sub>2</sub> is first reduced to Hg with a large excess of ascorbic acid in the presence of 2-3 g. KNO<sub>3</sub> at water-bath temp. Filter off the reduced Hg, wash and redissolve in 10 ml. HNO<sub>3</sub>. The Hg is now present as Hg(NO<sub>3</sub>)<sub>2</sub> and can be titrated as above.

Russ M. Gohlstein

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Erdey, László

4285\* Variamin Blue B as a Colorimetric Reagent. Variaminbék (4-amino-4'-nitro-2,2'-difenyldimész) mint kolorimetriás reagens. II. Determination of Iodine. Jód meghatározás. (Hungarian.) László Erdey and Ferenc Szabadváry. Magyar kémiai folyóirat, v. 61, no. 11, Nov. 1935, p. 341-343.

A color reaction suitable for the determination of iodine in solution of 0.5-13 µg.1 per ml. between the pH range of 1-5. Sensitivity of method. Tables, graphs. 15 ref.

ERDEY, L.; BUZAS, L.

ERDEY, L.; BUZAS, L. Easily produced analytic glass filters. p. 443.

Vol. 611 No. 12, Dec. 1955.

MAGYAR KEMIAI FOLYKIRAT

SCIENCE

Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

~~Erdey, Laszlo~~  
ERDEY, Laszlo

HUNGARY/ Analytical Chemistry. General Problems. G-1

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27137 K.

Author : Laszlo Erdey.

Title : Introduction into Chemical Analysis. Part I.  
Qualitative Analysis. Textbook for Universities.  
4th Edition.

Orig Pub: Budapest, Tankonyvkiado, 1956, VI, 281 l.,  
28.60 ft.

Abstract: no abstract.

Card 1/1

HUNGARY/Analytical Chemistry - Analysis of Inorganic  
Substances.

E.

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 28486

Author : Erdey, L. and Banyai, E.

Inst :

Title : The Utilization of Exchange Precipitation Reactions in  
Analytical Chemistry. II. The Determination of the  
Chloride Ion.

Orig Pub : Magyar tud akad Men tud oszt koezl, 7, No 2, 175-186  
(1956) (in Hungarian)

Abstract : See RZhKhim, 1957, 1257.

Card 1/1

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HUNGARY/Analytical Chemistry - Analysis of Inorganic  
Substances.

E.

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 28482

Author : Laszlo, E. and Banyai, E.

Inst : -

Title : The Utilization of Exchange Precipitation Reactions in  
Analytical Chemistry. III. The Determination of Sulfate  
and Sulfide Ions.

Orig Pub : Magyar tud akad Mem tud oszt koezl, 7, No 2, 187-198  
(1956) (in Hungarian)

Abstract : See RZhKhim, 1957, 8534.

Card 1/1



HUNGARY/Analysis of Inorganic Substances.

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 12583

$\pm 0.104$  ml. Cu, Bi and Co interfere in the molar ratio 1 : 1, Cd, Al and Zn interfere.  $F^-$  and  $PO_4^{3-}$  retard the basic reaction,  $NO_3^-$  (at 1 : 10  $NaNO_3$ ) does not impede. The possibility of titrating the solution of complexon III with a solution of  $Fe^{3+}$  in the presence of variamine blue in the region of pH 3 - 4.5 at  $50^\circ$  was established. The error is 1 - 2%.

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ERDEY, L

✓ The use of precipitate exchange reactions in analytical chemistry. I. B. Banyai and L. Erdely (Tech. Univ., Budapest). *Acta Chim. Acad. Hung.* 8, 383-94 (1954) (in German) (English summary).—A discussion is given of theoretical and math. considerations regarding the class of chem. reactions in which the anion to be detd. is reacted with an insol. ppt. to form another poorly sol. ppt. and an anion that can be detd. easily by titrimetric means. Reactions which show conversion quotients of 1.0 or near 1.0 are suited for analytical purposes. Conversion quotients possessing a value less than 1.0 indicate an incomplete exchange reaction; quotients greater than 1.0 indicate excessive soly. of the exchange ppt. II. Determination of chloride ions. L. Erdely and B. Banyai. *Ibid.* 395-408.—The detn. of  $\text{Cl}^-$  by the addn. of insol.  $\text{Ag}_2\text{CrO}_4$  followed by the titration of the liberated  $\text{CrO}_4^{2-}$  is one of the well known examples of the ppt. exchange-reaction principle. Other ppts. that have been used in this detn. are  $\text{Ag}_2\text{C}_2\text{O}_4$ ,  $\text{Ag}_2\text{O}$ ,  $\text{Hg}_2(\text{IO}_3)_2$ , and  $\text{Hg}_2\text{C}_2\text{O}_4$ . Conversion quotients of the above ppts. with reference to the detn. of  $\text{Cl}^-$  are tabulated. The influence of pH and concn. is discussed. The following values for each of the ppts. indicate, resp., the min.  $\text{Cl}^-$  concn. limit, the % error, and the permissible pH range:  $\text{Ag}_2\text{CrO}_4$ , 20 millimoles/l., -0.01 to +1.0%, 4.5-7;  $\text{Ag}_2\text{C}_2\text{O}_4$ , 20 millimoles/l., 0.0 to +1.0%, 2.0-7;  $\text{Ag}_2\text{O}$ , 2.0 millimoles/l., -0.42 to +1.0%, 1.0-7;  $\text{Hg}_2(\text{IO}_3)_2$ , 1.0 millimoles/l., -0.34 to +1.0%, 0.0-7;  $\text{Hg}_2\text{C}_2\text{O}_4$ , 20 millimoles/l., -0.01 to +1.0%, 1.0-7. III. Determination of sulfate and sulfide ions. *Ibid.* 409-22.—The detn. of sulfate by the ppt. exchange principle with  $\text{Ba}(\text{IO}_3)_2$ ,  $\text{BaC}_2\text{O}_4$ , and  $\text{BaCrO}_4$  is investigated. The conversion

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# I. É. BÁNYAI AND L. ERDEY

quotients of the above ppts. with reference to  $\text{SO}_4^{2-}$  based upon their soly. products are reported. The influence of concn., pH, and the presence of alc. (to reduce soly.) is discussed. The liberated iodate and chromate is detd. volumetrically; the oxalate is detd. with  $\text{KMnO}_4$ . The  $\text{Ba}(\text{I}^{1/2})_2$  exchange reaction in the water system is useful in the range 10-4 millimoles/l.; in a 4:1  $\text{H}_2\text{O}$ -alc. mixt. it is useful in the range 1.5-1.0 millimoles/l. The  $\text{BaCrO}_4$  system is useful down to 6 millimoles/l. and the  $\text{BaCrO}_4$  system is useful in the range 20-1.0 millimoles/l. Sulfides can be detd. by the use of  $\text{Ag}_2\text{CrO}_4$  or  $\text{PbCrO}_4$ . With  $\text{Ag}_2\text{CrO}_4$  the method is useful through the range 40-4.0 millimoles/l.; with  $\text{PbCrO}_4$  the useful range is from 50 to 1.0 millimoles/l.

G. Drgt

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Hungary/Analytical Chemistry - Analysis of Inorganic Substances

G-2

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 8534

view of the very low solubility of III in neutral media, the reaction with III is carried out in a 0.1 N HCl solution with refluxing,  $\text{NH}_4\text{OH}$  is added until a faintly yellow color appears, and the  $\text{CrO}_4^{2-}$  determined after the separation of the precipitate from the filtrate. In agreement with theoretical calculations (RZhKhim, 1956, 78375), it has been established that the reaction with I can be applied to the determination of  $\text{SO}_4^{2-}$  only in the concentration range 4-10 mmol/liter; the error is less than 1%. When the solubility of I is lowered by the addition of alcohol, the range of application of the reaction is shifted to the 1-1.5 mmol/liter region. The reaction with I results in a 12-fold increase in the titer of the solution and is therefore suited for the determination of very small amounts of  $\text{SO}_4^{2-}$  in neutral, weakly acidic, or ammoniacal solutions in the narrow concentration range indicated. The reaction with II can be applied to the determination of  $\text{SO}_4^{2-}$  in neutral or ammoniacal solutions at concentrations  $\geq 6$  mmol/liter. The range of applicability of the reaction with III is from 1-20 mmol/liter  $\text{SO}_4^{2-}$ . I, II, and III are prepared by the reaction of  $\text{BaCl}_2$  with  $\text{KIO}_3$ ,  $(\text{NH}_4)_2\text{C}_2\text{O}_4$ , and  $\text{K}_2\text{CrO}_4$ . The

Card 2/3

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ERDEY, L.

The development of polarography in Hungary. In German. p. 17. (Acta Chimica, Vol. 9, No. 1/4, 1956, Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) IC, Vol. 6, No. 8, Aug 1957. Uncl.

HUNGARY/Analytical Chemistry. Analysis of Inorganic  
Substances.

E-2

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43045.

Author : Erdey L., Karsay A.

Inst : Hungarian Academy of Sciences.

Title : Amperometric Determination of Ions of Trivalent  
Iron With Ascorbic Acid.

Orig Pub: Acta chim. Acad. sci. hung., 1956, 9, No 1-4, 43-48.

Abstract: It was found that aqueous solutions of ascorbic acid  
(I) can be used in amperometric titration of  $Fe^{3+}$  at  
concentrations as low as 0.001 M. On determination  
of 1-2 ng Fe the error is less than 1% which is com-  
mesurable with the accuracy of the other known methods.  
The advantages of I in comparison with other titration  
reagents are the ready preparation of a solution of I

Card : 1/2

K. R. DEY, A

A new thermal method: derivative thermogravimetry.  
 L. Erdelyi, P. Paulik, and J. Paulik (Tech. Univ., Budapest).  
 Ann. Chim. Acad. Sci. Hung. 10, 61-67 (1955); (in German)  
 (English summary); cf. C.A. 50, 2952c. — A thermogravi-  
 metric app. is described and illustrated in which the sample  
 under study is heated in an elec. oven; the temp. of the latter  
 is increased at a const. rate. The sample is contained in a  
 Pt crucible at the end of a rod, the lower end of which is  
 attached to one side of an aperiodic balance. On the other  
 side is suspended a magnet that is surrounded by a solenoid  
 connected to a galvanometer. The deflection of the galvan-  
 ometer is plotted with respect to time; it is proportional to  
 the rate of change in wt. of the sample. Graphs are derived  
 for  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ,  $\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$  (I), Kalum (II), hydrazine  
 nitrate, artificial bohrinite (III),  $\text{Al}_2\text{O}_3 \cdot x\text{H}_2\text{O}$  (IV),  $\text{Al}(\text{OH})_3$   
 gel (V),  $\text{MgCO}_3$  (in  $\text{CO}_2$  atm.), Zn anthranilate (VI) (in  
 $\text{CO}_2$  atm.), coal (in air and in N), beechwood (in N), and  
 cellulose (in N) in the temp. range 0-1000°. I loses 3  
 mols.  $\text{H}_2\text{O}$  at room temp., 12 mols. at 145°, and the remain-  
 ing 3 mols. at 280°.  $\text{SO}_4$  is lost at 840°. In II, 4 mols.  
 $\text{H}_2\text{O}$  are attached to K, 6 to Al, and one each to the  $\text{SO}_4$   
 ions. III, IV, and V are extensively discussed. VI loses  
 half its org. content at 340°, probably forming  $\alpha$ - $\text{C}_6\text{H}_5$   
 $\text{COOZnNH}_2$ .

I. W. Lowenberg, Jr.

ERDEY L

✓ 703. Lophine, a new chemiluminescent indicator.  
L. Erdely and L. Füzai (Hungary), *Anal. Chim. Acta*, 1966, 15 (4), 333-334 (in English).  
0.1% ethanolic or 1% aqueous soln. of 2:4:6-  
triphenyltriazole (lophine) can be used as a chemi-  
luminescent indicator for the end point of redox  
titrations. Light is emitted in basic or oxidizing  
media used in the presence of a catalyst. It has  
the same pH range and is as sensitive to  $\text{CO}_2$  as  
phenolphthalein. The acid soln. is titrated with  
N or 0.1 N base and, in addition to 1 ml of lophine  
soln., should contain a small amount of 3%  $\text{H}_2\text{O}_2$   
and 5%  $\text{K}_2\text{Fe}(\text{CN})_6$  soln. The accuracy is within  
 $\pm 0.4\%$  for titrations of N soln. W. J. BAKER

PM/K



2481. Compleximetric determination of iron in presence of Varianine blue as indicator. L. Fényi and G. Rédy (Inst. Gen. Chem., Tech. Univ., Budapest, Hungary). Z. anal. Chem., 1956, 148 (4), 248-257. Varianine blue H<sub>2</sub> (with NaCl as solid diluent) is a useful redox indicator for the compleximetric determination of Fe<sup>3+</sup> at pH 1-7 to 3 and at room temp. Results on 5 to 30 ml of 0.01 N FeCl<sub>3</sub> are accurate to within  $\pm 1$  per cent and on 5 to 20 ml of 0.1 N FeCl<sub>3</sub> to within  $\pm 0.4$  per cent. Ammonium ions, Hg<sup>2+</sup>, Cu, Sr, Ba, Mg, K and Na (all in mol. ratio to Fe of 1:10) and Zn and Mn<sup>2+</sup> (1:1) do not interfere, but Co, Ni and Co (1:1) interfere. Acetate, Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup> and SO<sub>4</sub><sup>2-</sup> do not interfere, but F<sup>-</sup> and I<sup>-</sup> do. Procedure. - Treat the sample of FeCl<sub>3</sub> with 10 per cent. aq. NH<sub>3</sub> until a slight permanent ppt. appears, and then adjust the pH to between 1.7 and 3 with 2 N formic acid (1 to 5 ml). Dilute the soln. to 100 ml, add the indicator, and titrate immediately with 0.05 M or 0.01 M EDTA (disodium salt), rapidly at first then dropwise to a yellow end-point.

J. P. STERN

ERdey, L.

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✓ Ascorbinometric determination of hexacyanoferrate(III)  
(ferricyanide). L. Erdely and G. Svehla (Tech. Univ.,  
Budapest). Z. anal. Chem. 180, 407-10 (1958).—Ferri-  
cyanide reacts with ascorbic acid,  $C_6H_8O_6$ , to form ferro-  
cyanide and dextrose,  $C_6H_{12}O_6$ .  $H^+$  is liberated and must be  
neutralized during the titration. The soln. is yellow at  
first and gradually becomes colorless. The reaction takes  
place only at pH 5-6. The 0.1N ascorbic acid reagent is  
prepd. from 8.0 g. ascorbic acid/l. and distd. in a glass app.  
The titer is obtained by taking 20 ml. of 0.1N  $KHIO_4$  soln.  
— with 5 ml. of 2N HCl and a little KI and titrating the  
liberated I almost completely, then adding a little NaOAc  
and a knife-blade full of indicator mixt. (1 g. Variamine Blue-  
600 g. NaCl), and then continuing until the blue color dis-  
appears. The soln. must be standardized frequently. To  
det. ferricyanide with ascorbic acid, first neutralize the  
soln. to phenolphthalein, add 5 g. of NaOAc crystals and 1  
ml. of 0.1% 2,6-dichlorophenolindophenol soln., and titrate  
with 0.1N ascorbic acid. The original greenish yellow  
— soln. gradually turns to greenish blue. When near to the  
end point, an azure-blue color appears and then, at the end  
point, disappears on adding one drop of the titrant; 1 ml.  
of 0.1N soln. = 21.20 mg. of  $[Fe(CN)_6]^{+++}$  or 32.93 mg. of  
 $K_3[Fe(CN)_6]$ . The end point can also be detd. potenti-  
metrically. 28 references.

Jim

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W. T. Hall

PM

LADISLAUS ERDEY Ladislav Erdey

Complexometric bismuth determination. Ceresa, R. J. and Ladislav Erdey (Univ. Budapest). Z. anal. Chem. 152, 250-251 (1950). In acid soln. Bi reacts with 1-(4-arsanophenylazo)-2-naphthol-3,6-disulfonate (I) gives orange-yellow ppt. with Sn(IV), U(VI), Th, Nb, rare earths, and Zr and acid sol. complexes with Th and Bi. The end point in the titration of a HNO<sub>3</sub> soln. (pH 2) of Bi with 0.002-0.05M I-sodium (ethylenedinitrilo)tetracetate is shown by a change of I from red to yellow. If the concn. is low enough so the color of the indicator is not masked, Ag, Pb, Cu, Cd, Co, Ni, Mn, Zn, Al, Ca, Ba, Sr, Mg, Na, K, and NH<sub>4</sub><sup>+</sup> do not interfere. The interference of Fe(III) is eliminated by reduction with ascorbic acid. Th, Zr, La, and U(VI) interfere by forming colored compds. with I. Cl<sup>-</sup>, PO<sub>4</sub><sup>3-</sup>, and SO<sub>4</sub><sup>2-</sup> ppt. basic Bi salts, and F<sup>-</sup> complexes Bi. In the range 2-200 µg. of Bi. the error is 0.3%. K. G. Stone

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ERDEY, L.

1457. Determination of zinc and lead ions with ascorbic acid. 71. Erdely and L. Polos (Inst. for Allgemeine Chem., Tech. Univ. Budapest, Hungary). Z. anal. Chem., 1956, 153 (6), 401-411. Zinc or lead ions can be determined volumetrically by the addition of excess of  $K_3Fe(CN)_6$  and titration with standard ascorbic acid. The  $Fe(CN)_6^{4-}$  liberated causes pptn. of  $K_2Zn_3Fe(CN)_{12}$  or  $Pb_3Fe(CN)_{12}$ , and the excess is detected potentiometrically (platinum and S.C.E.) or with a redox indicator. Oxidising and reducing agents and compounds that give ppt. with Zn or Pb interfere. The accuracy is within  $\pm 0.5\%$ . Procedure for Zn—To an aq. soln. (containing 20 to 200 mg of Zn) add 20%  $(NH_4)_2SO_4$  soln. (10 ml) and 2 N  $H_2SO_4$  (2 ml) and 1% Veramine blue II soln. (0.2 to 0.5 ml), heat to  $60^\circ$  and add 0.1 M  $K_3Fe(CN)_6$  (1 or 2 ml). Titrate with 0.1 N ascorbic acid until the soln. is colourless; add more 0.1 N  $K_3Fe(CN)_6$  (1 or 2 ml at a time) and continue the titration as many times as is necessary to attain a stable end-point. Procedure for Pb—With samples containing 0.1 to 1 g, proceed as for Zn, but with the use of formate or acetate buffer of pH 3 (10 ml) instead of  $(NH_4)_2SO_4$  and  $H_2SO_4$ .  
A. R. ROGERS

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ERDEV, L

✓ 1458. The determination of zinc and lead ions with potassium ferrocyanide. L. Erdő and L. Pólos (Inst. for Analytical Chem., Technical Univ., Budapest, Hungary). *Z. anal. Chem.*, 1958, 153 (6), 411-413.  
—Zinc or lead can be determined volumetrically by titration with standard ferrocyanide, in the presence of a trace of ferricyanide, with a redox indicator. The accuracy is within  $\pm 0.5\%$ . *Procedure for Zn*—To an aq. soln. (containing 20 to 200 mg of Zn) add 20%  $(\text{NH}_4)_2\text{SO}_4$  (10 ml), 2 N  $\text{H}_2\text{SO}_4$  (1 or 2 ml), 0.1 M  $\text{K}_3\text{Fe}(\text{CN})_6$  (one drop) and 1% Variamine blue B soln. (0.2 to 0.5 ml), heat to 60° and titrate with 0.1 M  $\text{K}_3\text{Fe}(\text{CN})_6$  until the violet colour is discharged. *Procedure for Pb*—For samples containing 0.1 to 1 g, proceed as for Zn, but with the use of formate buffer of pH 3 (10 ml) instead of  $(\text{NH}_4)_2\text{SO}_4$  and  $\text{H}_2\text{SO}_4$ . (Cf. also *Anal. Abstr.*, 1957, 4, 1467.)  
A. R. ROGERS

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1458C

dm

ERDEY, L.

Research by means of derivative thermogravimetry. L. Erdely (Tech. Univ., Budapest). *Periodico Polytech.* 1, No. 1, 87-90 (1967). — The general field of thermal analysis was reviewed and advantages of simultaneous recording by differential thermal analysis, thermogravimetry, and derivative thermogravimetry by means of a combination apparatus were shown. Analysis of  $KAl(SO_4)_2 \cdot 12H_2O$  showed that 4 mols. of  $H_2O$  were removed from the K ion at  $70^\circ$ , 4 from the Al ion at  $160^\circ$ , and 2 from the  $SO_4$  ion at  $180^\circ$ .  $SO_4$  was stripped from alumina at  $760^\circ$ . Thermal curves were shown for Zn anthranilate, magnesite, dolomite, hydrazinylite, boehmite, kaolinite, bauxite, and coals and other solid fuels. Decomposition temps. of Lewis bases showed a sequence which corresponded to base strength in the  $NH_4$  halide series.

Joseph Bornstein

ppf

ERDEY, L.

25. Studies on high-temperature analytical reactions by the method of derivative thermogravimetry. (In German) L. Erdey. *Periodica Polytechnica, Chemical Engineering*, vol. 1, 1957, No. 2, pp. 91-104, 5 figs.

The combined methods of thermogravimetry, derivative thermogravimetry (DTG) and differential thermal analysis (DTA) are very suitable for studying high-temper-

ature reactions such as pyrolyses. Such reactions can be best interpreted by the Lewis electron theory. Valuable conclusions can be derived for the acid-base strength of the individual components of the reaction by evaluating the DTG and DTA curves. Several thermal decompositions can be explained by the change of the acid or base strength of the material in question under the influence of the temperature. From among systems containing protons, the thermal decomposition of ammonium salts, conversion of metal oxides by ammonium salts and the thermal decomposition of metal ammonium phosphates can easily be studied. The method is suitable for the examination of the processes of the following proton-free systems: difference between the thermal decomposition of dolomite and magnesite; the acid-base reactions occurring in the cryolite melt used in aluminum electrolysis and the processes of the decomposition of silicic acid and silicates with soda. The processes can be interpreted in terms of the electron theory.

ERDEY, I.

Report on the work of the Section of Chemical Sciences; also, remarks by M. Freund and others.

p. 169 (Kozlemenyel.) Budapest Vol. 8, no. 2/3 1957

SO: Monthly Index of East European Accessions (AEEI) Vol. 6, no. 11 November 1957



ERDEY, L.; BANYAI, E.; PAULIK, E.

"The use of precipitate exchange reactions in analytical chemistry." IV.

p. 103 (Kozlemenyel) Vol. 9, no. 1, 1957  
Budapest, Hungary

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4  
April 1958

ERDEY, L.

HUNGARY/Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour: Referat Zhur-Khimiya, No 5, 1958, 14174.

Author : Erdely L., Vigh K.

Inst : Hungarian Academy of Sciences

Title : Permanganatometric Determination of Vanadium in Ferrovana-  
dium After Reduction with Sodium Nitrite.

Orig Pub: Acta chim. Acad. sci. hung., 1957, 11, No 1-2, 73-83;  
Magyar tud. akad. Kem. tud. oszt. kowl., 1956, 7, No 2,  
277-285

Abstract: To the sample of ferrovandium are added 50 ml  $H_2SO_4$  (1:1)  
and 20 ml  $HNO_3$  (1:3), evaporation is carried out until  $SO_3$   
vapors are formed, diluted with water to 200 ml,  $SiO_2$  is  
separated and solution cooled to room temperature. Decom-  
position of ferrovandium can also be effected by successive  
treatment with 50 ml  $H_2SO_4$  (1:1) and 5-10 ml 30%  $H_2O_2$ . To

Card : 1/2

HUNGARY/Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour: Referat Zhur-Khimiya, No 5, 1958, 14174.

the resulting solution is added 1 g  $\text{NaNO}_2$ , stirred, after 10 minutes 1.5 g of urea are added, heated to  $60-70^\circ$  and titrated with 0.1 N solution of  $\text{KMnO}_4$ . A control experiment is run concurrently. Satisfactory results were obtained.

Card : 2/2

ERDEY, L.

HUNGARY/Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour: Referat Zhur-Khimiya, No 5, 1958, 14155.

Author : ~~Erdey L.~~, Karsai A.

Inst : Hungarian Academy of Sciences

Title : Indirect Method of Polarographic Determination of Calcium.

Orig Pub: Acta chim. Acad. sci. hu g., 1957, 11, No 1-2, 171-178.

Abstract: Description of a method for determining  $6.3 \cdot 10^{-4}$  to  $2 \cdot 10^{-2}$  mole/liter Ca, which is based on precipitation of Ca with bromanilic acid (I) and a subsequent determination of excess I, which is reduced polarographically at pH 4.5 and has an  $E_{1/2} = 0.21$  v (in relation to a saturated calomel electrode). On carrying out the analysis 5 ml 0.1% solution of I are mixed with 0.5-4 ml of a solution of Ca and after 10 minutes are added 5 ml 1 M  $\text{CH}_3\text{COOH}$  containing 3 ml 2 M  $\text{NH}_4\text{Cl}$  in 50 ml solution;  $\text{N}_2$  is passed for 5 minutes and polarography is carried out. Under the same condition the polarogram of

Card : 1/2

Some derivatives of Verlaamin Blue suited for use as oxidation-reduction indicators. <sup>7</sup> I. Erdely, E. Zalay, and E. Bodor (Tech. Univ., Budapest) *Acta Chim Acad. Sci. Hung.* 12, 231-8 (1957) (in German). 4-Amino-4-methoxydiphenylamine (I) forms a colorless aq. soln. which upon addn. of an oxidizing agent changes to a blue colored product (II) and eventually to a red colored quinone diimine (III). The potentiometric investigation of the dye indicated a reversible oxidation-reduction process. If a reducing agent is added to III it changes to II and eventually to the colorless soln. of I. In the solid form, I did not show any interesting properties. This excluded the presence of free radicals. Various substituted derivs. of the basic compound were prepared some of which showed the properties of indicators. In some cases the substituents caused a shift of the potential to more neg. values.

E. O. Forster

ERDEY, L.

16. Recent results of derivative thermogravimetry. (In German) E. Paulik, L. Erdey. *Acta Chimica Academiae Scientiarum Hungaricae*. Vol. 13, 1957, No. 1-2, pp. 117-140, 19 figs. 4

Investigations carried out so far by the method of derivative thermogravimetry proved that the derived curve facilitates the evaluation of the difficultly interpretable basic curves. Processes taking place in rapid sequences in the substance investigated or reactions causing very small losses of weight may readily be detected by this method with a high degree of sensitivity. The temperature of the maximum of the derived curve clearly defines the reaction under examination. If the values of the initial and final temperatures of the reaction are plotted on the basic curve precise stoichiometric calculation can be made. Very significant conclusions can be drawn from the comparison of the curves obtained by derivative thermogravimetry with those by differential thermoanalysis. Results of investigations by derivative thermogravimetry of various analytical precipitates, bauxites, alumina hydrates, red muds, crystallites and catalysts are discussed.

ERDEY, L.

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 ✓ Chelatometric determination of zinc, cadmium, and lead  
 in the presence of Variamine Blue as oxidation-reduction  
 indicator. L. Erdy and L. Pólos (Tech. Hochschule,  
 Budapest, Hung.). Anal. Chim. Acta 17, 458-62 (1957) (in  
 German).—The end points in titrations of  $Zn^{++}$ ,  $Cd^{++}$ , or  
 $Pb^{++}$  with ethylenediaminetetraacetic acid (EDTA) are  
 found by means of the following principle: the oxidation-  
 reduction couple  $[Fe(CN)_6]^{4-} - [Fe(CN)_6]^{3-}$  assumes a  
 different potential in the presence of the  $Zn^{++}$ ,  $Cd^{++}$ , or  
 $Pb^{++}$  than otherwise, because these cations ppt. with  $[Fe-$   
 $(CN)_6]^{4-}$ ; if the pH of the soln. is 5, the oxidation-reduction  
 indicator Variamine Blue (4-amino-4'-methoxydiphenyl-  
 amine) assumes a violet color in this situation. Now as the  
 EDTA removes the last of the cation being titrated, the  
 liberation of  $[Fe(CN)_6]^{4-}$  causes a sudden shift in oxidation-  
 reduction potential which converts the Variamine Blue into  
 its colorless form.  $Mg^{++}$ ,  $Ba^{++}$ ,  $Br^{++}$ , and  $Ca^{++}$  do not  
 interfere.  
 A. L. Underwood

BERDEY, L

461. Vanilmine blue as a colorimetric reagent.  
III. The determination of vanadium and chromium.  
Erdely and F. Szabadvary (Dept. of General  
Chem., Tech. Univ. of Budapest). Magyar Kém.  
Foly., 1957, 83 (3-7), 163-168. By using vanilmine  
blue B as an indicator, in the pH range 1 to 4,  
0.5 to 12  $\mu\text{g}$  per ml of V and 0.2 to 4  $\mu\text{g}$  per ml of  
Cr (as chromate) can be determined photometri-  
cally. The oxidation of V and Cr to the required  
valency states is described. Iron, Cr and V can be  
determined simultaneously by the same method.  
The theory of these determinations and the effect  
of interfering ions are discussed. A. G. Petro

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ERDEY, L.

Chem 2510. Determination of calcium ions by flame-photometric titration. L. Erdely and G. Szabó. *Monat. fur Allgemeine Chem., Tech. Univ. Budapest, Hungary*. 2, 1957, 184 (6), 400-413. Conc'n. of  $\text{Ca}^{2+}$  in the range 0.001 to 0.1 M have been determined with an accuracy of  $\pm 1\%$  by flame-photometric titration with standard  $\text{H}_3\text{PO}_4$  sol'n. A Zeiss flame photometer with a modified atomizer was used to follow the fall in conc'n. of  $\text{Ca}^{2+}$ . A graph relating galvanometer reading and volume of  $\text{H}_3\text{PO}_4$  added showed a distinct change of slope at the equivalence point, especially when a correction was applied for dilution. A. R. Roazze

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ERDEY, L.

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2376. Varianine blue as a colorimetric reagent.  
 J. Erdely and F. Santavy, (Inst. for Allgemeine  
 Chemie, Tech. Univ. Budapest), Z. anal. Chem.,  
 1957, 185 (3), 90-94. — Varianine blue can be used  
 for the colorimetric determination of many ions  
 whose standard potential lies above that of the  
 reagent, e.g.,  $\text{Fe}^{3+}$ ,  $\text{Cr}^{3+}$ ,  $\text{Mn}^{2+}$ ,  $\text{V}^{5+}$ ,  $\text{Ag}^{+}$ ,  $\text{IO}_3^{-}$  and  
 $\text{I}^{-}$ . Oxidation equivalents of different ions give the  
 same extinction reading so that one calibration  
 curve suffices. An aq. soln. of the reagent (0.5%)  
 (2 to 3 ml) is added to the test soln. (0.5 to 10 mg  
 equiv.) in water or alcohol. The extinction is  
 measured after 5 min. with a Pulfrich S57 filter  
 (570 m $\mu$ ). The mechanism of formation of the  
 blue compound, the effect of changes of conditions,  
 and interferences are discussed. A procedure is  
 described for the estimation of  $\text{Fe}^{3+}$ ,  $\text{Mn}^{2+}$ ,  $\text{Cr}^{3+}$  and  
 $\text{V}^{5+}$  in the presence of each other. G. BUNGER

*Handwritten signature*

Distr: 4E2c

A study of potentiometric determination of gold(III) with ascorbic acid. L. Erdely and G. Rády (Tech. Univ., Budapest, Hung.). *Talanta* 1, 188-88 (1958).—A potentiometric method for the detn. of Au(III) with ascorbic acid is described. Ascorbic acid reduces Au(III) to metallic Au, and the titration is carried out at 50° between pH 1.6 and 3, in a chloride medium with a max. concn. of 0.1N. At the end point a considerable potential jump occurs. The accuracy of the method is about  $\pm 1\%$  with 0.01N solns.  $Hg^{++}$ ,  $Cu^{++}$ , and  $Fe^{+++}$  ions do not interfere, but  $Pt(IV)$  causes a pos. error. The influence of a no. of factors such as temp. and pH on the accuracy are discussed.

Bella L. Rosakeld

COUNTRY : Poland E-1  
 CATEGORY :  
 AES. JOUR. : AZKhim., No. 1959, No. 85967  
 AUTHOR : Erdey, L.  
 INST. :  
 TITLE : Titration with the Use of Chemiluminescent Indicators.

ORIG. PUB. : Chem. analit., 1958, 3, No 3-4, 269-280

ABSTRACT : Chemiluminescent indicators (CI) are considered as redox systems; in the process of oxidation of CI the electrons which are in excited state, emit on transition to stable state, a portion of the energy in the form of a light quantum. In presence of CI, in alkaline solutions, spontaneous decomposition of  $H_2O_2$  takes place. Beginning of reaction of CI which is associated with chemiluminescence, occurs on reaching a definite pH value of the solution, or on establishment of corresponding redox potential of the system. Therefore, CI are suitable for determining end-point of acid-base as well as oxidation-reduction titrations. The advantage of CI over indicators of other types is the

CARD: 1/3

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COUNTRY : Poland  
CATEGORY :  
ABS. JOUR. : RZKhim., No.

1959, No. 8567

AUTHOR :  
INST. :  
TITLE :

ORIG. PUB. :

ABSTRACT : fact that they make possible titration of turbid and colored solutions. As CI were studied lucigenin (dimethylacridyl nitrate) (I), luminol (hydrazide of 3-aminophthalic acid), lophin (2,4,5-triphenylimidazole), and siloxen. I has reversible indicator properties and is suitable for titration of strong and weak acids, and also of strong bases. In titration of acids or bases with the use of I as CI, 5 ml 3% H<sub>2</sub>O<sub>2</sub> solution and 5 ml 0.05% solution of I are added to the solution being titrated, and titration is carried out in the dark, with alkali or acid, until the green glow of the solution vanishes. With the use of I, titrations of reducing agents with solutions

CARD: 2/3

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COUNTRY : Poland E-1  
 CATEGORY :  
 ABS. JOUR. : RZKhim., No. 1959, No. 85967

AUTHOR :  
 INST. :  
 TITLE :

ORIG. PUB. :

ABSTRACT : of  $H_2O_2$ , and of oxidizing agents -- with solutions of  $N_2H_4 \cdot H_2SO_4$ , have also been developed. Luminol has no resersible indicator properties and can be used only for titration of acids with alkalies, in the presence of  $H_2O_2$  and of catalysts, and also for titration of reducing agents with solutions of  $NaClO$  or  $NaBrO$ . Lophin, analogous to luminol in mechanism of luminescence, is suitable for titration of strong and weak acids. Siloxen shows a red glow in the presence of strong oxidizing agents, and is recommended as CI in cerimetric, chromatometric, and permanganatometric titrations. A variant of automatic titration with the use of CI has been developed. -- A. Nemodruk.

CARD: 3/3

CZECHOSLOVAKIA/Physical Chemistry. Thermodynamics. Thermo-chemistry. Equilibria. Phase Transitions. Physical-Chemical Analysis.

B

Abs Jour: Ref Zhur-Khin., No 5, 1959, 14554.

Author : Erdey L.

Inst :

Title : An Application of the Differential Thermogravimetric Method.

Orig Pub: Chem. zvesti, 1958, 12, No 6, 352-365.

Abstract: Review and comparison of methods for differential thermic analysis, thermogravimetry and differential thermogravimetry. See also Ref Zhur-Khin., 1958, 52927-52930; 57132.

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ERDEY, L.

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✓ Titrations in the presence of chemiluminescent indicators  
László Erdély. *Magyar Kém. Lapja* 13, 7-12 (1958); cf.  
Kemény and Kurtz, C.A. 46, 9009g; 48, 497b. — Lucigenin,  
(10,10'-dimethyl-9,9'-biacridinium nitrate) luminesces in the  
presence of  $H_2O_2$  above pH 8.6-9.4. Its 6% aq. soln. is  
used as an indicator in the titration of strong or weak acids  
with alkali in the presence of 8 ml. 3%  $H_2O_2$ . Detailed  
exptl. procedures are described for the detn. of the acid-  
ity of milk, molasses, red wine, and fruit juices, and of the  
concn. of ascorbic, salicylic, acetylsalicylic acids, phos-  
phates, and carbonates. The mechanism of the reversible  
oxidation of the carbinol base by  $H_2O_2$  via lucigenin peroxide  
and a triplet stage is described. Detailed instructions are  
given for the use of lucigenin to indicate the end point when  
7/  $Fe(CN)_6^{4-}$ ,  $As^{3+}$ ,  $ClO_2^-$  or  $BrO_3^-$  is titrated with 0.1N  
 $H_2O_2$  in alk. soln. Standard deviations of not more than  
0.06% are obtained. The procedure for the use of lu-  
minol (5-amino-2,3-dihydro-1,4-phthalazinedione) in 0.01%  
alk. soln. to indicate the end point of the titration of  $As^{3+}$ ,  
8b- $^{3+}$ , rhodamide,  $CN^-$ ,  $S_2O_3^{2-}$ ,  $S^{2-}$  with alk.  $NaOBr$  or  
 $NaOCl$  is described. *Lophin*, (2,4,5-triphenylimidazole) in  
0.45% alc. or 1% acetone soln. luminesces above pH 8.4-  
9.4 in the presence of 3%  $H_2O_2$  and 3 ml. 6%  $K_3Fe(CN)_6$ ,  
and is used as acid-base indicator. The author also ex-  
tends the use of *florone* to oxidation-reduction titrations in-  
volving  $Th^{4+}$ ,  $Pb^{2+}$ ,  $Mo^{6+}$ ,  $I_2$ ,  $As^{3+}$ ,  $(COO)_2^{2-}$ .  
Luminescence at the end point is observed either visually

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1/2 in the dark or photometrically with a photomultiplier.  
Eva B. Richards



Edey, L.  
Diatri L22c

24. A photometric method of determining vanadium and chromium with Variamine Blue. (In German) L. Edey, P. Szabady, *Acta Chimica Academiae Scientiarum Hungaricae*, Vol. 13, 1958, No. 3-4, pp. 335-345, 2 figs., 7 tabs.

Though several methods are known for the colorimetric determination of vanadium, they have the common fault that the specific extinction is small. Considerably better results can be obtained with Variamine Blue. Vanadium(V) may be reliably determined within the concentration range of 0.5-12 µg/ml whereas chromium in that of 0.2-4 µg/ml in the presence of each other in solutions of pH 1-4. Potassium permanganate is used for oxidizing vanadium and potassium persulphate for chromium, the excess of these reagents is removed before adding the Variamine Blue. In addition a simple colorimetric procedure is given for the determination of iron, vanadium and chromium in the presence of one another by means of Variamine Blue.

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Distr: hE2c(j)

23. Precipitate exchange reactions in analytical chemistry, IV\*. (In German) L. Erdey, R. Bányai, P. Paulik. *Acta Chimica Academiae Scientiarum Hungaricae*. Vol. 13, 1958, No. 3-4, pp. 453-493, 8 tabs.

Subsequent to the theoretic discussion of the exchange of chloride by mercury(II) iodate the practical conditions of the method of determination on this basis are discussed. Between certain limits of concentration the main reaction between mercury iodate and chloride ions proceeds without any side reactions. However in solutions of higher concentration a  $HgCl_2$  complex whereas in solutions of lower concentration a  $HgCl_4$  complex forms in addition to  $HgCl_2$ . The formation of the  $HgCl_4$  complex liberated less iodate and that of the  $HgCl_2$  complex, in turn, more iodate than expected on the basis of the main reaction. The determination of chloride may be carried out also on a micro scale in the presence of alcohol and under adequate conditions. Bromide, iodide and cyanide ions may be similarly determined in this way.

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Country : HUNGARY  
 Category : Analytical Chemistry. General Problems  
 Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15039  
 Author : Erdey, L.; Banyai, E.; Zalay, E.; Tesy, M.  
 Institut. : Hungarian Academy of Sciences  
 Title : Preparation of Derivatives of Variamine Blue  
 and Their Standard Oxidation-Reduction Potentials  
 Orig Pub. : Acta chim. Acad. scient. hung., 1958, 15,  
 No 1, 65-79  
 Abstract : A description is given of the preparation of  
 the following derivatives of variamine blue  
 (I) which differ from I itself according to  
 the value of the standard oxidation-reduction  
 potential (SORP), and which can be used as  
 oxidation-reduction indicators (ORI) as fol-  
 lows: 4-amino-2-methyl-4'-methoxy-diphenyl-  
 amine (II), 4-amino-4'-methoxy-diphenylamine-  
 2-sulfo-acid (III), anilide of 4-amino-4'-  
 methoxy-diphenylamine-2-sulfo-acid (IV),

Card: 1/6

Category	: Analytical Chemistry. General Problems
Abs. Jour	: Ref Zhur - Khim., No 5, 1959, No. 15039
Author	:
Institut.	:
Title	:
Orig Pub.	:
Abstract	: anisidid of 4-amino-4'-methoxy-diphenylamine-2-sulfo-acid (V), methyl ether of 4-amino-4'-methoxy-diphenylamine-2-sulfo-acid (VI), 2-amino-7-methoxy-phenothiazine-9-dioxide (VII), 4-amino-4'-methoxy-diphenylamine-2-carboxylic acid (VIII), anilide of 4-amino-4'-methoxy-diphenylamine-2-carboxylic acid (IX), methyl ether of 4-amino-4'-methoxy-diphenylamine-2-carboxylic acid (X), acridone-like compound (XI) and picrate of I (XII). XI is soluble in
Cont'd	
Card:	2/6
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Country	HUNGARY	
Category	Analytical Chemistry. General Problems	E
Abstr. Jour.	Chem. Zvest. - Kilm., No. 1, 1959.	no. 15039
Author	:	
Institution	:	
Title	:	
Orig. Pub.	:	
Abstract	: ethanol; II, VI, VII, IX and X - in ethanol	
Cont'd	and diluted HCl; III, IV, V and VIII - in ethanol, diluted HCl and alkali; XII - in ethanol, water and diluted HCl. Solutions of leuko compounds of the enumerated ORI are colorless or have a weak yellow color. During the action of oxidizers in an acid solution, ORI first give a blue or violet-blue, and then a red product of oxidation. All derivatives of I are suitable for the indication of oxidation-reduction	
Card:	3/6	

Source:	ORI 122	E
Category:	Analitical Chemistry. General procedure.	
Ref. No.:	Ref. No. - ORI. No. 1, 1954.	OS. 15039
Author:		
Institut.:		
Title:		
Orig. Pub.:		
Abstract:	: processes which take place in an acid medium.	
Cont'd	The end of titration is determined by the change from the colorless form of ORI to blue. III, IV, V, VI and VII possess a light-absorption curve with a maximum within 570-610 mμ. During oxidation of II, VIII, IX, X, XI and XII, forms are produced with a violet hue, and their maxima of light-absorption are between 500-530 mμ. At pH 2, I, II, IX and XII possess a stable oxidation-reduction potential (ORP);	
Page:	4/6	
E - 7		

Country	: HUNGARY	
Category	: Analytical Chemistry. General Problems	E
Abs. Jour	: Ref Zhur - Khim., No 5, 1959,	No. 15039
Author	:	
Institut.	:	
Title	:	
Orig. Pub.	:	
Abstract	: the color intensity of these ORI does not	
Cont'd	change in the course of 10 minutes. ORP of	
	III, IV, V, VI and VII slowly changes with	
	time; at the same time, a gradual weakening	
	occurs, followed by a disappearance of the	
	color. ORP of VIII, X and XI are very unstable.	
	Taking into account the instability of the ORP	
	of many derivatives of I, the authors consider	
	the ORI of II, III, IV, V, VI, VII, IX and XII	
	to be the most acceptable. The value of SORP	
Cont'd:	5/6	

Country	: HUNGARY	
Category	: Analytical Chemistry. General Problems	E
Iss. Date	: Izv. Akad. Nauk - Khim., No 5, 1958,	No. 15039
Author	:	
Institute	:	
Title	:	
Orig. Publ.	:	
Abstract	: of the ORI studied depends on the pH. At pH 2,	
Cont'd	values of SORP for II-X and XII are equal, res-	
	pectively, to 553, 673, 669, 670, 678, 680,	
	692, 642, 693 and 587 mv. In the opinion of the	
	authors, the quoted values of SORP provide the	
	approximate characteristic of the intensity of	
	the attraction or repulsion of the electrons by	
	the corresponding substitutes. The number of	
	electrons which take part in the oxidation-re-	
	duction process for ORI, which are derivatives	
	of I, should be equal to 2.-- N. Polyanskiy	
Card:	6/6	
E - 8		



*Erdey, L.*

Distr: 4E2c(j)

31. Titration of calcium using Eriochrome Red B indicator. *L. Erdey, Magyar Kémiai Folyóirat, Vol. 64, 1958, No. 2, pp. 50-55, 1 fig., 12 tabs.*

Eriochrome Red B is suitable for indicating the end point of titrations in the presence of P.D.T.A. The indicator is a diaxyazo dye and forms complexes with many cations. These complexes are formed due to the action of the azo and hydroxyl groups and is accompanied with a sharp change of colour. When titrating metal ions in a suitably buffered solution by means of P.D.T.A. the formation of the complex may be used for indicating the end point. Titrations with Eriochrome Red B indicator can be best carried out in the pH range of 9 to 10; such values can be readily adjusted by means of  $\text{NH}_4\text{OH}-\text{NH}_4\text{Cl}$  or boric acid-sodium hydroxide or borate-hydrochloric acid buffers. The titration of calcium ions may take place in these buffers by means of an H.D.T.A. (complexon III) solution; the indicator in 0.5 ml of a 0.6 g/100 ml aqueous Eriochrome Red B solution. At the point of equivalence the yellow colour of the indicator turns into blood-red.

*3  
2-may  
1*

*AB*

ERDEY, L.

7  
✓ Precipitate exchange reactions. L. Erdely and Eva  
Bányai (Tech. Univ., Budapest, Hung.). *Z. anal. Chem.*  
161, 16-28 (1958).—On shaking a dil. soln. of an anion A with  
an excess of sparingly sol. solid KOx (Ox is a reducing or  
oxidizing agent that is easily detd.), exchange occurs with Ox  
going into soln. Equations are derived for predicting  
whether or not the exchange will be quant. For  $\text{Cl}^-$ ,  $\text{AgIO}_3$   
or  $\text{Hg}(\text{IO}_3)_2$  is best. For  $\text{SO}_4^{--}$ ,  $\text{BaCrO}_4$  or  $\text{Ba}(\text{IO}_3)_2$  is  
best.  $\text{Ag}_2\text{CrO}_4$  or  $\text{PbCrO}_4$  is used for  $\text{S}^{--}$  in an  $\text{OAc}^-$  buffer.  
Errors are caused by soly. of the ppts. and poor equil.  
K. G. Stone—

4

jj

L. Erley

Distr: 4E3d

7

Derivatographic microdistillation method for investigating liquid mixtures. 7 R. Paulik, L. Erley, and S. Gal (Tech. Univ., Budapest, Hung.). *Z. anal. Chem.* 163, 321-9 (1958); cf. *C.A.* 52, 13325f. — The use of temp.-wt. curves and deriv. curves provides a complete description of the course of a distn. Mixts. studied were  $C_6H_6$ -EtOH- $H_2O$ ,  $Me_2CO$ - $H_2O$ ,  $Me_2CO$ -EtOH,  $n$ -BuOH- $H_2O$ ,  $C_6H_6$ - $n$ -BuOH- $H_2O$ , and aviation gasoline. Quant. analysis is simplified by using a 5-g. sample. K. G. Stone

6  
2-may  
1

9.9.

ERDEY, L.

22. Indirect ascorbinometric determination of strongly oxidizing materials, I. (In German) L. ERDEY, I. BUDA, K. VIGH. *Periodica Polytechnica, Chemical Engineering*, Vol. 3, 1959, No. 1, pp. 1-15, 12 tabs.

Strongly oxidizing materials cannot be directly determined by means of ascorbic acid since the oxidation products of the latter (such as dehydroascorbic acid, 1-thronic acid and oxalic acid) inhibit an unambiguous course of the reaction. In such cases the use of intermediate oxidation-reduction systems, e. g. iron(II)—iron(III) or sometimes iodine—iodide systems, render possible the ascorbinometric determination of systems having strongly positive standard oxidation-reduction potentials. Iron(III) ions produced in quantities equal to the material under analysis can readily be found by means of ascorbic acid in the presence of potassium sulphocyanide indicator. Liberated iodine may also be measured by ascorbic acid in the pH range of 2 to 8 in the presence of Variamine Blue indicator. The method is suitable for determining the following ions or materials:  $\text{ClO}_3^-$ ,  $\text{ClO}_4^-$ ,  $\text{C}_2\text{O}_4^{2-}$ ,  $\text{Br}_2$ ,  $\text{H}_2\text{O}_2$ ,  $\text{S}_2\text{O}_8^{2-}$ ,  $\text{Cr}_2\text{O}_7^{2-}$  and  $\text{MnO}_2$  with an accuracy of a few tenths of per cent. The determination of nitrite ions may be effected by the use of potentiometric and point indication.

5 4E2C  
1-MJL/pd

ERDEY, L.; MAZOR, L.; MEISEL.

Data on the microdetermination of the sulfur content in organic compounds. p.404.

MAGYAR KEMIKUSOK LAPJA. (Magyar Kemikusok Egyesulete) Budapest, Hungary.  
Vol. 14, no. 12, Dec. 1959.

Monthly List of East European Accessions. (EEAI) LC Vol. 9, no. 2,  
Feb. 1960 Uncl.

ERDEY, László

5  
1-28 (NA)

**Oxidation products of 4-amino-4'-methoxydiphenylamine.**  
Eva Bányai, László Erdély, and Ferenc Szabadváry (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 20, 307-20 (1969) (in German).—The polarographic waves and the absorption max. of 4-amino-4'-methoxydiphenylamine (I), of its oxidn. products, and of *N*-(*p*-anisyl)-*p*-benzoquinone diimine (II) proved that II formed in the 2-electronic oxidn. of I. By varying the pH value of the soln., II suffered a change of color, due to the proton affinity of the imino group. The degree of proton affinity of the imino group was established by an optical method and on the basis of the break points of the oxidn.-redn. potential: pH curves. The electrode potential of the oxidn.-redn. system proved to be pH dependent. In a slightly acidic medium, oxidn. took place through a semiquinone intermediate (III), as detd. by using the index potentials. In the oxidn.-redn. potential measurements, the oxidn. agents were: 0.01*N* Br-H<sub>2</sub>O (in acidic soln.) or 0.01*N* K ferricyanide (in alk. soln.), resp. During the potentiometric oxidn. of I with Br-H<sub>2</sub>O at pH 1-6, I gave at first a blue color. By adding Br-H<sub>2</sub>O in an amt. corresponding to 2 electrons a violet color arose; and in the presence of strong oxidizing agents (Br-H<sub>2</sub>O and Cl-H<sub>2</sub>O in great excess), the soln. became red. Over pH 8 the oxidized soln. was continuously yellow.

At pH 1.5-5.5, the 2-electronic oxidn. went through the intermediate III, the stability of which was assured by mesomeric structures. In alk. soln. the oxidn. was direct. At pH 3, a protonated form of II (IV) presented an absorption max. at 580 mμ. The pH region 3-4 was the most favorable for IV (25%). The 2-electronic oxidn. product of I was violet in acidic soln. (absorption max. at 540 mμ), red close to pH 7 (max. at 480 and 540 mμ), and yellow in alk. soln. (max. at 480 mμ); consequently the red color was an mixed one. By polarographic and optical methods, this oxidn. product proved to be II. The color change was explained as follows: in alk. soln., II exists as a yellow base; in acidic soln., however, by taking up a proton, II can exist in the two violet mesomeric forms of IV. The overoxidized product arising from the action of Cl-H<sub>2</sub>O contained 3.1% N, no Br; and, probably, it was decompd. Below pH 1, the violet IV became colorless by decompn. into *N*-(*p*-anisyl)-*p*-benzoquinone imine and NH<sub>3</sub>. In weakly acidic medium I took up only one proton, probably on the primary amino group. Over the pH range 1-6, therefore, both the oxidized and the reduced forms of I may exist as univalent cations.

E. Kasztreiner

ERDEY, Laszlo, Prof.Dr.(Budapest); PAULIK, Ferenc (Budapest)

Derivatographic investigation of bauxites; thermic decomposition  
of hydrargillite. In German. Acta chimica Hung. 21 no.2:205-218  
'59. (HAI 9:4)

1. Institute of General Chemistry, Technical University, Budapest.  
(Bauxite) (Gibbsite)

ERDEY, László, Prof.Dr. (Budapest XI. Gellert ter 4.); GYIMESI, József  
(Budapest XI. Gellert ter 4.); MÉRISZ, Tibor (Budapest XI. Gellert  
ter. 4)

Preparation of some new complex forming compounds and determination  
of their constants. In German. Acta chimica Hung. 21 no.3:327-332 '59.  
(KKA I 9:5)

1. Institute of General Chemistry, Technical University, Budapest.  
(Complex compounds) (Dissociation)



ERDEY, L.

Distr: 4E2c(1)/4E3d

204/80.

543.244.8-4

Preparation of some new complexing agents and the determination of their properties. L. Erdely, J. Gyimesi, T. Meisai. Magyar Kémiai Folyóirat, Vol. 65, 1980, No. 10, pp. 388-389, 3 figs.

4  
1-JA3(NB)  
2

Complexing properties were expected on the basis of practical considerations from the following compounds: DL-2,3-dihydroxypropylamine-N-diacetic acid, DL-serine-N-diacetic acid sodium salt and L-glutamic-N-diacetic acid

disodium salt. These compounds were prepared and the dissociation constants as well as the stabilities of the alkaline-earth metal complexes of the analyzed pure materials were determined. It was found that the stability of the alkaline-earth metal complexes of DL-2,3-dihydroxypropylamine-N-diacetic acid was higher than that of complexes derived from the similarly dibasic aminodiacetic acid. The stability of the complexes of DL-serine-N-diacetic acid is higher by about one order of magnitude than the complex stabilities of the former compound. The stabilities of the complexes of L-glutamic-N-diacetic acid are in good agreement with the corresponding values of the aminomalonic-N-diacetic complexes. The prepared new compounds were examined also as auxiliary complexing agents, by adding them in various molar proportions to solutions of  $Zn^{2+}$ ,  $Pb^{2+}$ ,  $Cu^{2+}$ ,  $Ni^{2+}$  and  $Al^{3+}$  ions. The experiments showed that the complexing properties of the prepared compounds were inferior to those of ethylenediamine tetracetic or nitrilotriacetic acids. Consequently the field of application of these compounds is limited, they can be used only as auxiliary complexing agents.

92  
11  
GR

Distr: hE2c

Titration With Hydrogen Peroxide and Sodium Hypobromite Solutions. L. Erdey  
and J. Inczedy (Tech. Univ., Budapest, Hung.). Z. anal. Chem. 166, 410-17 (1959).  
--The change from weakly green  $\text{Ni}(\text{OH})_2$  to black  $\text{Ni}(\text{OH})_3$  can be used as an indicator  
for titrations with 0.1 or 0.01N  $\text{OBr}^-$  solns. in weakly basic soln. To det.  $\text{OBr}^-$ , add  
3 drops 5%  $\text{NiSO}_4$  soln. (I) and titrate with 0.1N  $\text{H}_2\text{O}_2$  to the disappearance of the  
black color. To det. S in steel dis-place  $\text{H}_2\text{S}$  with HCl in a Schulte app., catch the  
 $\text{H}_2\text{S}$  in NaOH, oxidize  $\text{S}^{--}$  to  $\text{SO}_4^{--}$  with excess  $\text{OBr}^-$ , and det. the excess with  $\text{H}_2\text{O}_2$ .  
 $\text{NH}_4$  salts are detd. by oxidizing  $\text{NH}_4^+$  to N with excess  $\text{OBr}^-$  and detg. the excess with  
 $\text{H}_2\text{O}_2$ .  $\text{OCl}^-$  is detd. by adding KBr and titrating with  $\text{H}_2\text{O}_2$  and add 3 drops I as indi-  
cator.  $\text{As}^{+++}$ ,  $\text{S}^{--}$ ,  $\text{SO}_3^{--}$ , and  $\text{S}_2\text{O}_3^{--}$  can be titrated directly with  $\text{OBr}^-$  soln. in 0.1-  
1N NaOH and 6-8 drops I as indicator. K. G. Stone

(Retyped clipped abstract)  
Card 1/1

ERDEY, Laszlo, r.tag, akademikus

The situation of analytical chemistry and the main trends of its  
development. Kem tud kozl MTA 14 no.2:213-226 '60. (EBAI 10:2)  
(Hungary--Chemistry, Analytic)  
(Hungarian Academy of Sciences)

~~ERDEY, L.~~ prof. (Budapest XI Gellert ter 4); POLOS, L. (Budapest XI Gellert ter 4)

Contributions to the iodometric end point indication. Periodica  
polytechn chem 4 no.2:157-162 '60. (EEAI 10:4)

1. Institut fur Allgemeine Chemie der Technischen Universitat,  
Budapest.

(Iodometry) (Potassium iodide)

ERDEY, A.

✓ Derivatographic study of potassium hydrogen phthalate.  
R. Belcher, L. Erdey, F. Pálinka, and G. Liptay (Tech.  
Univ. Budapest, Hung.). *Talanta* 8, 63-7 (1960). Deriva-  
tographic measurements showed that the decompn. of  $C_6H_4$ -  
COOHCOOK, which is often used as a primary standard,  
begins at 190-200°. The nonhygroscopic prepn. can be  
dried at 100-150°. Decompn. proceeds in 3 steps, the rate  
depending on the rate of increase of temp.  $C_6H_4(COOK)_2$  is  
formed first, phthalic anhydride and water being removed.  
Enthalpy changes also can be obtained from the derivato-  
grams; this yields information on the further mechanism of  
thermal decompn. and changes of state of the sample.  
Bella L. Rosenfeld

6  
JAJ(NB)

ERDEY, Laszlo; GYINESI, Jozsef; MEISEL, Tibor

Synthesis of some new complex-forming compounds and  
determination of their constants. Magyar kem folyoir 65 no.  
10:386-388 O '59.

1. Budapesti Muszaki Egyetem Altalanos Kemiai Tanszeke.
2. "Magyar Kemiai Folyoirat" szerkeszto bizottsagi tagja.

ERDEY, L., prof. (Budapest XI., Gellert ter 4); LIPTAY, G. (Budapest XI.,  
Gellert ter 4); GAL, S. (Budapest XI., Gellert ter 4); PAULIN, R. ;  
(Budapest XI., Gellert ter 4 )

Derivatographic investigation of ammonium phosphate precipitations.  
Periodica polytechn chem 5 no.3:209-217 '61.

1. Lehrstuhl für Allgemeine Chemie, Technische Universität.

ERDEY, L., prof. (Budapest XI., Gellert ter 4); LIPTAY, G. (Budapest XI., Gellert ter 4); GAL, S. (Budapest XI., Gellert ter 4); PAULIK, F. (Budapest XI., Gellert ter 4)

Thermal investigation of iron (III) hydroxy precipitations.  
Periodica polytechn chem 5 no.4:287-303 '61.

1. Lehrstuhl fur Allgemeine Chemie, Technische Universitat, Budapest. 2. Editorial Board member, "Periodica Polytechnica; Chemical Engineering" (for Erdey).



ERDEY, L., prof.dr. (Budapest XI., Gellert ter 4)

"Progress in nuclear energy - analytical chemistry. Editor M.T. Kelley. Reviewed by Prof., dr. L. Erdey. Periodica polytechnica chem 5 no.4:360 '61.

1. Lehrstuhl für Allgemeine Chemie, Technische Universität, and Editorial Board member, "Periodica Polytechnica; Chemical Engineering."

ERDEV, László, prof., dr. (Budapest XI, Gellert ter. 4); GIMESI, Otto (Budapest XI, Gellert ter. 4); RADY, György (Budapest XI, Gellert ter. 4)

Determination of elementary sulfur in nonaqueous medium. Acta chimica Hung 28 no.1/3:179-185 '61. (EEAI 10:9)

1. Institut für Allgemeine Chemie der Technischen Universität, Budapest.

(Sulfur) (Benzene) (Acetone) (Cyanides)

RADY, Gyorgy (Budapest XI, Gellertter 4); GIMESI, Otto (Budapest XI, Gellertter 4);  
ERDEY, László, prof., dr. (Budapest XI, Gellertter 4)

Determination of the total content of lead and lead oxide in lead  
chromate. Acta chimica Hung 28 no.1/3:237-242 '61.  
(EEAI 10:9)

1. Institut für Allgemeine Chemie der Technischen Universität, Budapest.

(Lead) (Lead oxides) (Lead chromate)

~~ERDEY, I.~~ prof. (Budapest, XI., Gellert ter 4); INCZEDY, J. (Budapest,  
XI., Gellert ter 4)

The role of perhydroxyl ions in the reactions of hydrogen  
peroxide. Periodica polytechnica 6 no.4:195-202 '62.

1. Department for General Chemistry, Technical University,  
Budapest.

G/002/62/000/009/001/001  
D287/D307

AUTHOR: Paulik, Ferenc, Paulik, Jenő and Erdey, Laszlo

TITLE: Derivatography

PERIODICAL: Chemische technik, no. 9, 1962, 533-537

TEXT: The derivatograph, constructed by the authors, is an automatic recording device for the thermal analysis of solid or liquid samples. Weight changes due to heat and the rate at which these changes proceed and the variations in the enthalpy and the temperature of one sample are recorded simultaneously. The relationship between the chemical composition and the crystalline structure of substances can be determined with a higher degree of accuracy than with hitherto used methods; thermal reactions within the sample can also be elucidated by this method. Derivatograms give results obtained during tests on bauxite samples and during the microdistillation of water. The authors refer briefly to previous investigations on minerals, ores, solid fuels and building materials, on the heat-sensitivity of catalysts and thermal proper-

Card 1/2

Derivatography

G/002/62/000/009/001/001  
D287/D307

ties of synthetics and state that the method should also give satisfactory results during the analysis of multi-component solvent mixtures, ethereal oils and other valuable organic compounds. A detailed description of the apparatus is included. There are 8 figures.

ASSOCIATION: Institut für Allgemeine Chemie der Technischen Universität, Budapest (Institute for General Chemistry, Technical University, Budapest)

SUBMITTED: March 13, 1962

Card 2/2

ERDEY, Laszlo; GEGUS, Erno; T. VANDORFFY, Maria

Analysis of natural waters by high-frequency titration. Magyar  
kem lap 17 no.6:277-281 Je '62.

1. Budapesti Műszaki Egyetem Általános Kémiai Tanszék.

BECK, Mihaly; BITE, Pal; BRUCKNER, Gyozo; CSENTES, Jozsef; CSUROS, Zoltan;  
DEAK, Gyula; ERDEY-GRUZ, Tibor; ERDEY, ~~Laszlo~~; FABIAN, Pal;  
FINALY, Istvan; FODOR, Gabor; FODORNE CSANYI, Pirooska;  
GYORBIRO, Karoly; INZELT, Istvan; KUCSMAN Arpad; NEUMANN, Erno;  
PUNGOR, Erno; SCHNEER, Anna; SCHULEK, Elemer; SZABADVARY, Ferenc

Rules for the Hungarian chemical nomenclature and orthography.  
Kem tud kozl MTA 17 no.1/4:1-292 '62.

1. "A Magyar Tudomanyos Akademia Kemiai Tudomanyok Osztalyanak Kozlemenyei" szerkeszto bizottsagi tagja (for Bruckner, Csuros, Laszlo Erdey, G.Fodor, and Schulek). 2. "A Magyar Tudomanyos Akademia Kemiai Tudomanyok Osztalyanak Kozlemenyei" szerkesztoje (for Erdey-Gruz). 3. "A Magyar Tudomanyos Akademia Kemiai Tudomanyok Osztalyanak Kozlemenyei" technikai szerkesztoje (for Finaly). 4. Muvelodesugyi Miniszterium (for Csentes ). 5. Magyar Tudomanyos Akademia Helyesitasi Bizottsage (for Fabian). 6. Nehezipari Miniszterium (for Neumann).



ERDEY-GRUZ, Tibor, akadémikus; BRUCKNER, Gyozo, akadémikus; LENGYEL, Bela;  
TELEGDY-KOVATS, Laszlo, a tudományok doktora; HARDY, Gyula,  
kandidatus; GERECS, Arpad, akadémikus; FOLDI, Zoltan; WOLKÖBER,  
Zoltan; TUDOS, Ferenc, kandidatus; PURMAN, Jeno; KRAUSZ, Imre,  
kandidatus; ERDEY, Laszlo, akadémikus; SCHAY, Geza, akadémikus

An account of the 1961 work of the Section of Chemical Sciences,  
Hungarian Academy of Sciences. Kem tud kozl 18 no.3:343-394  
'62.

1. Magyar Tudományos Akadémia Kémiai Tudományok Osztályának titkara,  
es "A Magyar Tudományos Akadémia Kémiai Tudományok Osztályának  
Közleményei" szerkesztője (for Erdy-Gruz). 2. Akadémiai levelező  
tag (for Lengyel and Foldi). 3. "A Magyar Tudományos Akadémia  
Kémiai Tudományok Osztályának Közleményei" szerkesztő bizottsági  
tagja (for Bruckner, Erdy, Foldi, Gerecs, Hardy, Lengyel, Schay,  
Tudos).

ERDEY, Laszlo, prof., dr. (Budapest, XI., Gellert ter 4); RADY, Gyorgy,  
dr. (Budapest, XI., Gellert ter 4); GIMESI, Otto (Budapest, XI.,  
Gellert ter 4)

Analysis of lead-containing silver alloys. Acta chimica Hung  
32 no.2:151-157 '62.

1. Institut für Allgemeine Chemie der Technischen Universität,  
Budapest. 2. Mitglied der Redaktion, "Acta Chimica Academiae  
Scientiarum Hungaricae" (for Erdey).

ERDEY, L., prof., dr. (Budapest, XI., Gellert ter 4); PAULIK,  
F. (Budapest, XI., Gellert ter 4); PAULIK, J.  
(Budapest, XI., Gellert ter 4):

Normalizing the conditions in thermoanalytical experiments  
by means of a derivatograph. Periodica polytechn chem 7  
no. 3: 171-175 '63

1. Lehrstuhl für Allgemeine Chemie, Technische Universität,  
Budapest.
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-  
Chemical Engineering." (for Erdey).

ERDEY, L., prof., dr. (Budapest, XI., Gellert ter 4); LIPTAY, G. (Budapest, XI., Gellert ter 4); PAULIK, F. (Budapest, XI., Gellert ter 4);

Determination of clacite, magnesite and dolomite in presence of each other by means of a derivatograph. Periodica polytechn chem 7 no. 3: 177-184 '63

1. Lehrstuhl fur Allgemeine Chemie, Technische Universitat, Budapest.
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-Chemical Engineering". (for Erdey).

ERDEY, L., prof. (Budapest, XI., Gellert ter 4); LIPTAY, G.  
~~ERDEY, L., prof. (Budapest, XI., Gellert ter 4);~~

Derivatographic investigation of metal anthranilate pre-  
cipitate. Periodica polytechn chem 7 no. 3: 185-204 '63

1. Lehrstuhl für Allgemeine Chemie, Technische Universität,  
Budapest.
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-  
Chemical Engineering" (for Erdoy).

ERDEY, L.; prof. (Budapest, XI., Gellert ter 4); GAL, S.  
(Budapest, XI., Gellert ter 4)

Thermoanalysis of natural and synthetic cryolite.  
Periodica polytechn chem 7 no. 3: 205-214 '63

1. Lehrstuhl für Allgemeine Chemie, Technische Universität, Budapest.
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-Chemical Engineering" (for Erdey).

ERDEY, L., prof. (Budapest, XI., Gellert ter 4); GAL, S.  
(Budapest, XI., Gellert ter 4); PAULIK F. (Budapest,  
XI., Gellert ter 4); BAUER, J. (Budapest, XI., Gellert  
ter 4);

Derivatographic analysis of calcium oxalate hydrates.  
Periodica polytechn chem 7 no. 3: 215-22 '63

1. Lehrstuhl fur Allgemeine Chemie, Technische Universitat,  
Budapest (for Erdey, Gal and Paulik).
2. Chemische Fabrik Gedeon Richter, Kobanya (for Bayer).
2. Mitglied, Redaktionskollegium, "Periodica Polytechnica-  
Chemical Engineering" (for Erdey).

ERDEY, L., prof. (Budapest, XI., Gellert ter 4); LIPTAY, G.  
(Budapest, XI., Gellert ter 4)

Derivatographic study of metal pyridine rhodanide precipitates. Periodica polytechnica chem 7 no. 3: 223-236 '63

1. Department for General Chemistry, Polytechnical University of Budapest.
2. Editorial Board member, "Periodica Polytechnica-Chemical Engineering" (for Erdey).



ERDEY, Laszlo, akadémikus

An account of the 3d All-Union Conference on Thermography. Kem  
tud kozl MTA 19 no.3:355-356 '63.

1. Budapesti Műszaki Egyetem Általános Kémiai Tanszéke; "a Ma-  
gyar Tudományos Akadémia Kémiai Tudományok Osztályának Koz-  
lemenyei" szerkesztő bizottsági tagja.

VIGH, Katalin; INCZEDY, Janos; ERDEY, Laszlo

Determination of phosphorus content of steel, crude iron and ferro-vanadium by the ion exchange resin column. Magy kem folyoir 69 no.2: 73-75 F '63.

1. Budapesti Muszaki Egyetem Altalanos Kemiai Tanszeke. 2. "Magyar Kemiai Folyoirat" szerkeszto bizottsagi tagja (for Erdey).

ERDEY, László; KOCIS, Elemér; TAKACS, József

Air drying by silica gel. Épületgépészet 12 no.3/4:68-72 Jo '63.

1. Budapesti Műszaki Egyetem Általános Kémiai Tanszék.

ERDEY, Laszlo, prof., dr. (Budapest, XI., Gellert ter 4); VANDORFFY,  
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